fernald

Report

October 2000

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message from
Jack Craig

Welcome new Fernald Site Director Steve McCracken

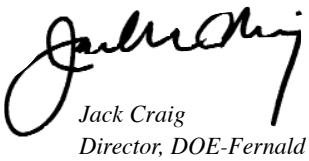
This will be my last message to you as the Director of the Fernald Environmental Management Project. I have assumed a new job as Deputy Manager of DOE's Ohio Field Office. Although I will still be involved with Fernald, I am pleased to announce that Steve McCracken will be my successor as Director of the Fernald Environmental Management Project. Leading a closure site is nothing new for Steve. Most recently he has been the Project Manager at the Weldon Spring Site Remedial Action Project in St. Charles County, Missouri. Weldon Spring is a 226-acre site that did much of the same work as Fernald. Like Fernald, Weldon Spring had soil and aquifer contamination issues that had to be addressed during the site cleanup. An industrial complex that had to be demobilized and the resultant waste was disposed of in an on site disposal facility.

In addition to his experience as a project manager, Steve has also worked with the DOE's Formerly Utilized Sites Remedial Action Program at the St. Louis Airport Site and was the Executive Director of Environmental Management for DOE Oak Ridge Operations. He also spent a short time at Fernald in 1994 in addition to handling his other responsibilities at Weldon Spring.

A native of Oak Ridge, TN., Steve holds a Bachelor of Science degree in Civil Engineering from the University of Tennessee.

Steve McCracken

I have known Steve for over 10 years. He is very excited about the future of this project and knows that significant progress has been made cleaning up the site but there is still much work to be done. As someone who has traveled this path with Weldon Spring, he is familiar with what it takes to reach final cleanup. I know he looks forward to meeting with Fernald team members and stakeholders in the next few months to introduce himself and to learn more about the issues that affect the future of this site. In closing, I want to express my sincere appreciation to the Fernald stakeholders for supporting the cleanup effort during my tenure as director. Due in large part to the efforts of our stakeholders, Fernald has arrived at cleanup standards and Records of Decision that have enabled us to accelerate the cleanup of the site and save millions of dollars in the process. I can say without fear of contradiction that Fernald's working relations with its stakeholders is the envy of the DOE Complex. Again thank you for your past support and please join me in welcoming Steve McCracken to Fernald.



Jack Craig
Director, DOE-Fernald

On the cover: *A team member from the Soils & Water Project Division removes samples of water from the Great Miami River to be sampled for various concentration levels (6860-d0106).*

All that remains... debris

If it's been awhile since you visited the Fernald site, you will notice some very visible changes in the administrative area landscape. The buildings that once housed the Inspector General office, Industrial Relations, the Fernald E.M.P. Credit Union, Multi Media Visual Services and Security have been taken down. The only visual sign that something once occupied this area is the pile of debris that remains.

Wise Services, Inc. and team members from the Fernald Atomic Trades & Labor Council (FAT&LC) completed the decontamination and dismantlement (D&D) activities on the Security Building (28A), former Inspector General (IG)/Industrial Relations (IR) Building (28B), Main Gate Guard Post (28N) and associated structures.

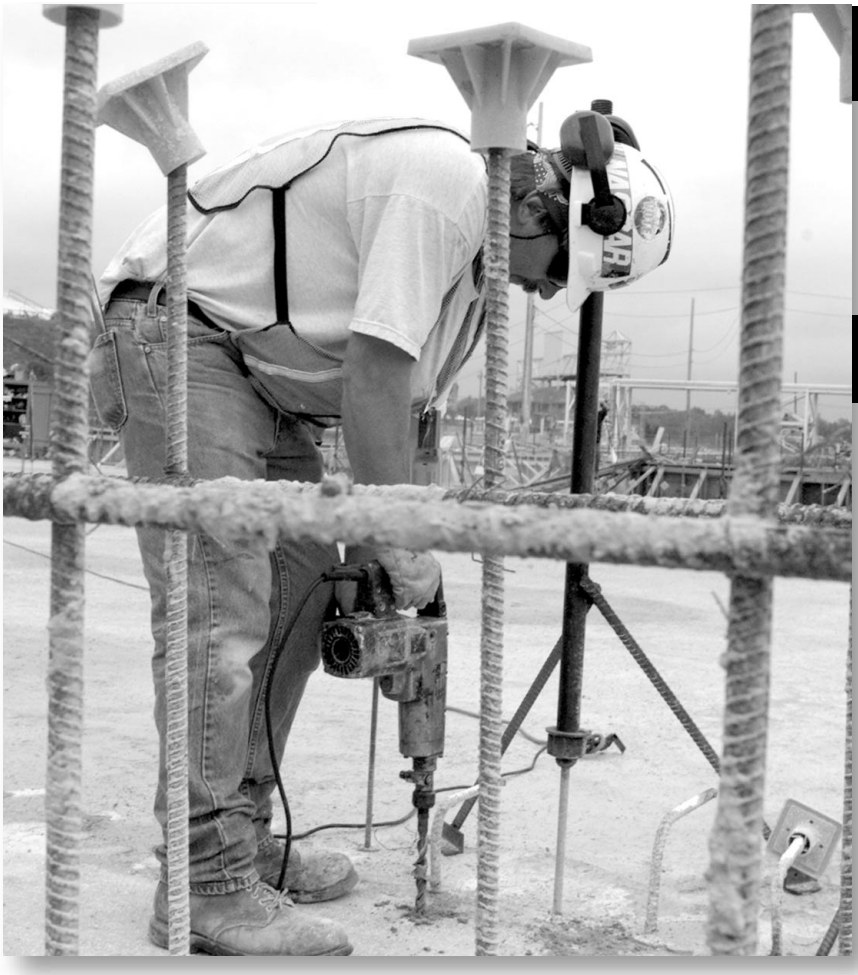
Current activities include shearing of the remaining structure and loading of the material and debris into roll-off boxes. The roll-off boxes are taken to an interim debris transfer area located near the On-Site Disposal Facility (OSDF) where the material and debris are being dumped. Activities at the OSDF are currently in winter shutdown mode; therefore the material will be placed in the OSDF at a later date. More than 90 roll-off boxes are expected to be generated as a result of the 28A, 28B and 28N D&D project.

"D&D of this area is very significant because it clearly indicates that we're making progress in the overall scope of the site's remediation. The majority of D&D in the past has been in the former production area, which may not have been readily visible to our stakeholders," said Johnny Reising, DOE-FEMP Associate Director. Demobilization of the project and area restoration will be complete by the end of October.

Since 1994, when meaningful D&D work began, there have been more than 250 structures identified for demolition. Since then, 87 structures have been demolished.

Above: All that remains of 28A, 28B and 28N is a pile of debris. This project was very significant because it was the first D&D project to be completed in the administrative area of the site (7349-d202) .

Cleanup **Progress** Update



Waste Pits Remedial Action Project (WPRAP)

- Shipped train #29 to Envirocare of Utah (see Fernald Shipments section for details).
- WPRAP has shipped over 173,000 tons of material to Envirocare.

Silos Project

- Received approval from OEPA and U.S. EPA on the Remedial Design Work Plan for the Silos 1 and 2 project.
- Continued installation of the Transfer Tank Area tank foundations for the Accelerated Waste Retrieval (AWR) project.
- Continued site preparation construction activities for the Silo 3 Project.

Above left: A worker drills holes for anchor bolts in the Transfer Tank Area foundation (7385-d0246).

Left: Workers are seen installing forms for the pre-loading gantry foundations (7325-d180).

Soil and Disposal Facility Project

- Reached 100 percent waste capacity in Cell 1.
- Completed construction of the OSDF bulk debris staging/transfer area and began construction of the lay-down area.
- Completed impacted material debris placement in the OSDF under Petro's contract.
- Completed supplemental background soil sampling.
- Removed sediment basin #3 from the Southern Waste Units and began construction on basin #4.
- Conducted demonstration of the Excavation Monitoring System.

Aquifer Restoration/ Wastewater Project

- Successfully regenerated the ion exchange resin in vessels 400A & 400B at the Advanced Wastewater Treatment facility, which will allow reuse of the resin.
- Performed maintenance on two injection wells to ensure the screens are kept clean allowing proper flow of the water.

Above: A Soil & Water Project team member is seen removing a water sample from the Great Miami River. The samples are taken to determine various concentration levels in the water (6319-d2632).

Left: A view of the last truck load of soil that was placed in Cell 1. This load officially declared the cell at full capacity (6860-d0127).

Cleanup **Progress** Update

Demolition Projects

Decontamination & Dismantlement (D&D)

- Plant 5 Complex —
  - Continued asbestos abatement and equipment removal in Building 5A.
  - Began encapsulating exterior transite in 5A.

- Plant 6 Complex—
  - Continued the removal of interior equipment, asbestos contaminated piping and interior transite.
  - Began interior demolition of Area 6A & Area 7.

- Building 28A, 28B and 28N —
  - Began interior demolition and structural D&D of 28A.
  - Began and completed structural D&D of 28B.
  - Started loading the debris from 28B into roll-off boxes and hauled to the OSDF.

- Facilities Shutdown
  - Began isolating the domestic water line to the Bio-denitrification Tower from the General Sump.
  - Continued isolating electrical systems in the General Sump area.
  - Isolated the natural gas system in the Services Building.

Above left: A MACTEC employee washes down an area in Plant 6 prior to preparation of D&D activities (6639-d480).

Left: A roll-off box is being unloaded at Plant 6. Material and debris are placed inside of the roll-off boxes as D&D activities progress in Plant 6 (6401-d610).

Waste Generator Services

- Thorium Legacy Waste Project —
  - Completed four shipments of thorium residues to Nevada Test Site
- Nuclear Materials Disposition —
  - Continued shipments to Portsmouth, Ohio — total of 1,928.4 metric tons uranium (MTU) shipped in FY00, exceeding baseline goal of 1,890 MTU. The project is 83 percent complete.
- Waste Treatment and Storage—
  - Shipped 951 gallons of liquid mixed waste to Toxic Substance Control Act Incinerator in Oak Ridge, TN, completing all shipments associated with Batch 9
  - Continued physical inspection of selected liquid mixed waste inventory to verify waste streams that can be treated on site at Advanced Wastewater Treatment Facility

Left: A Nuclear Material Disposition team member applies the final metal bands on a shipping container. The bands keep the contents and lid in place during shipment (6966-d0048).

Fernald Shipments — September-2000

Contents / Destination	Shipment Mode	No. of Shipments	Monthly Total	FY00 Total
Low-Level Waste (Nevada Test Site)		20	27,991 cu. ft.	106,087 cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		1	13,996 gal.	13,996 gal.
Nuclear product/materials (Portsmouth)		25	602,886 net lbs. or 216.2 metric tons uranium	4,245,053 net lbs. or 1,780.6 metric tons uranium
Hazardous Waste (Envirocare of Utah)		3	2,034 cu. ft.	2,034 cu. ft.
Waste Pits Project (Envirocare of Utah, Inc.)		2 unit train (120 railcars)	12,908 tons	117,740 tons (1096 railcars)

Ongoing aquifer remediation

The restoration of over 200 acres of the Great Miami Aquifer that was contaminated during the 37 years of Fernald's uranium processing operations is proceeding on schedule. Currently 17 extraction wells (all south of the former production area) are pumping a combined total of approximately 4,000 gallons per minute (gpm) from the aquifer. Five injection wells are re-injecting the treated groundwater back into the aquifer at a rate of 1,000 gpm. Monitoring data indicates that the off-site plume migration has been stopped and uranium concentrations in discharges of wastewater to the river are being held within the EPA-approved concentration level of 20 parts-per-billion (ppb) or less.

The next phase of groundwater remediation will be targeting the waste storage area where the silos and waste pits are located and, if necessary the Plant 6 area located in the former production area. Relying on data collected in the early 1990s from the Remedial Investigation/Feasibility Study (RI/FS), the Record of Decision for Operable Unit 5 targeted 10 extraction wells in the waste storage area and two in the Plant 6 area. However, recent sampling results indicate that the uranium concentrations beneath Plant 6 have dissipated and are now below the 20 ppb cleanup level . Also, the uranium plume in the waste storage area is now smaller than what was characterized during the RI/FS (55 acres versus 70 acres, however the plume under the Pilot Plant drainage ditch area is much higher in concentration than previously thought. Recent groundwater modeling predicts that eight wells should effectively remediate the waste storage area, but because of the higher concentrations under the Pilot Plant drainage ditch, the time required to remediate the area may take seven years instead of the projected two. DOE is working closely with the U.S. Environmental Protection Agency (EPA) and the Ohio EPA to reach concurrence regarding the aquifer restoration designs for this phase.

Above: Geoprobe sampling provides a detailed profile of uranium contamination in the aquifer. A hollow metal rod with slots near the tip is pushed into the ground and groundwater samples are collected through the hollow tube every ten feet through the contaminated portion of the aquifer (6846-d93).

Plan the work... work the plan

While those of you familiar with Fernald have surely noticed that the site has changed dramatically over the past few years with the ongoing demolition activities, what you may not be aware of is that many preparations have to be made prior to initiation of decontamination and dismantlement (D&D) work in the area of utilities redistribution.

Utility redistribution is one of the first steps prior to the initiation of D&D activities. It takes a well coordinated effort to ensure success. The coordination of the work includes interaction with several parties at one time. One of the most important elements is defining and identifying all utilities or areas that will be affected in the future due to the D&D activity or scope of work. The Facilities Shutdown group addresses future utility needs such as water, electric, steam and air along with traffic and alarms. Careful planning from the Facilities Shutdown group and the Utilities Redistribution group allows successful demolition of buildings without affecting workers in the adjacent areas. Without careful utilities and maintenance planning during demolition, we would all be in the dark.

The future of Fernald workshop 3 asks... What will it be?

Approximately 55 stakeholders attended the third Future of Fernald workshop at the Crosby Senior Center to discuss the future of Fernald. The Fernald Citizens Advisory Board (FCAB), FRESH, the Community Reuse Organization and the Fernald Living History Project sponsored the meeting, which was the third in a series of workshops designed to gather input on potential public access to Fernald once cleanup is complete. A vision statement based on input from the second workshop in May 2000 was discussed and approved by attendees. Breakout groups also used a map/worksheet depicting the site after completion of cleanup and substantial natural resource restoration to develop possible public-use scenarios. The FCAB Stewardship Committee, which has membership from all the sponsoring organizations, will use these scenarios to develop a public access recommendation for transmittal to the DOE and the regulators within the next 60 days. Anyone interested in providing input to this process can still do so by visiting the Future of Fernald home page at www.fernald.gov/future/index.htm.

Left: Laura Hafer (Ohio EPA), on-line facilitator, hosted the Web portion of the workshop from a location at the Fernald site (7391-d0055).

Demonstration of monitoring technology

The Real Time Instrumentation Measurement Program group plays a crucial role within the Soil and Water Projects Division. Their job is to monitor an area before, during, and after soil excavation to ensure the excavated soil meets the waste acceptance criteria for the On-Site Disposal Facility and that the remaining soil complies with the final remediation levels. They use real-time characterization and monitoring techniques that provide radiological analysis of the data in the field. The RTRAK, the High Purity Germanium detectors and the Radiation Scanning System are a few of the systems currently used to characterize soil. In preparation for the unique challenge of monitoring in the former production area, a new technology, the Excavation Monitoring System (EMS) was demonstrated at Fernald in September.

The EMS has its own power source, computer, and laser positioning system. It is mounted on the excavator arm of a backhoe and the other end is connected to a detector. A laser equivalent of ground sensing radar keeps the detector a constant distance from the soil as it moves over the uneven terrain. It's ideally suited for difficult-to-reach areas such as trenches, piles, foundation holes and steep sloped excavations.

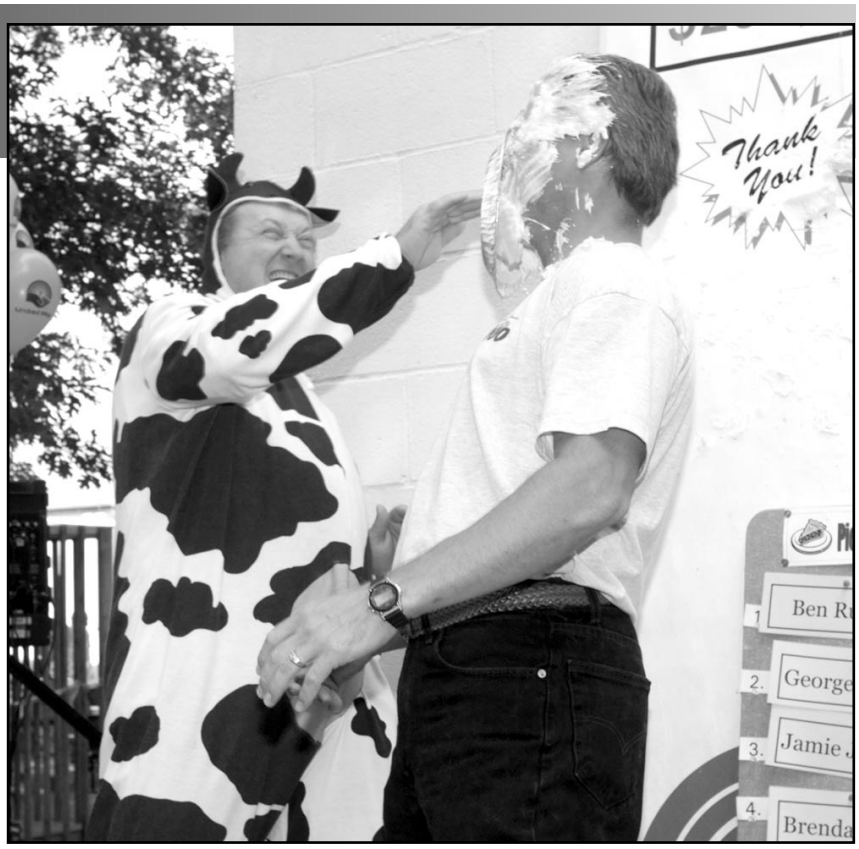
Above: The EMS was on loan to Fernald from the DOE site in Idaho and has been successfully deployed at the Mound site and overseas (7471-d16).

2000 United Way campaign finishes strong

The Fluor Fernald United Way Campaign closed out the month of September on a high note as over $155,000 was raised to help the local community. While falling short of the $200,000 goal set at the beginning of the campaign, the total dollars raised for United Way is expected to surpass the record set last year. "We ran a very good campaign," said Jeff Wagner, Fluor Fernald Public Affairs director. We had an experienced committee along with some new members. We are pleased with the amount raised especially since we have a smaller workforce than last year."

An area of focus during this campaign was in the area of leadership commitment. Last year about 17 percent of managers participated as "Fair Share" givers. By concentrating on this area in 2000 that number was raised to 30 percent. The Fluor Foundation matched each team member's contribution with 50 cents on each dollar pledged.

"I think we showed that you can have a good time while raising money for a good cause," said Dale Hamblin, vice-president International Guards Union of America. "For now we're going to catch our breath, review the campaign and see how high the dollars go."



Above: Got milk? Bob Schulten, Waste Generator Services, samples a piece of pie courtesy of Jim Vandy (cow man). "Pie in the Face" contest was just one of many fundraising activities (7403-d0061).

Above: Education Outreach programs reach thousands of teachers and students each year (7124-d022.)

Want to go back to school?

Here's your chance to go back to school and get straight A's. Local schools need community members like you as well as teachers, students and parents if education is to be successful. Since 1992, Fernald has made a commitment to become an integral part of the community and through its education outreach programs we hope to make a difference. Here is a sample of current education outreach efforts:

Partnership In Education - an after-school, hands-on science enrichment program throughout the year which includes Crosby Elementary, Miamitown Elementary, and Ross Middle Schools.

Business Partners - a partnership with Northwest High School Career Center and Covedale Elementary that involves a variety of programs throughout the year.

Archaeology: Can You Dig It? - original teacher curriculum that includes 21 lesson plans both paper and electronic, a video/board game and a related field trip.

Junior Achievement - a nationwide program which sends volunteers into area classrooms from first grade through high school to promote economic education and workplace readiness.

Science Bowl – a regional high school academic competition rewarding the best and brightest in the science, math and technology fields.

Want to help local schools? Call Sue Walpole, 513-648-4026 to become involved.

Recent Tours

George Jones joined the Building and Construction Trades Department in Washington D.C. as a government relations representative and plans to visit several DOE sites to interface with government contracting agencies.

Left: George Jones (center) met with John Bradburne (left), president and CEO of Fluor Fernald, and Lou Doll (right), Fernald representative for the Cincinnati Building Trades. Jones discussed issues with both labor and management representatives advocating measures that would be mutually beneficial (6810-d406).

At the invitation of Tom Schneider of the Ohio Environmental Protection Agency, Tony Legg and Curt Myers, representatives from the Tennessee Department of Environmental Conservation, came to Fernald to talk about regulatory issues associated with disposal facilities. The DOE site at Oak Ridge, TN. is preparing to build a disposal facility.

Right:A tour of the On-Site Disposal Facility with Fernald OSDF subject matter experts included Jay Jalovec (forefront), DOE OSDF manager, Mr. Schneider (third), and J.D. Chiou (fifth), Fluor Fernald OSDF manager (6810-d413).

A Post Closure Stewardship Technology Needs Conference was held in Cincinnati on Sept. 19 and 20. Stakeholders, technical experts, and regulators from across the DOE complex discussed strategies for technologies and technology implementation and also identified potential challenges concerning the future closure of DOE sites.

Left: A tour of the Fernald site was offered to the conference attendees on Sept. 18. Dave Kozlowski, DOE-FEMP Associate Director, provided the site overview (6810-d0418).

New documents added to the Public Environmental Information Center

The following information was added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE's Public Environmental Information Center (PEIC):

- Soil & Disposal Facility Project
  - OEPA Letter: Approval – Certification Report for Area 2 Phase 3 Part 2
  - USEPA Letter: Area 8, Phase II Ecological Restoration Research Plan
  - Draft Project Specific Plan for Paddy's Run and Adjacent Areas Real-Time Scan
  - USEPA Letter: Area 1, Phase I Wetland Mitigation
  - USEPA Letter: Area 8, Phase III South Certification Report
  - OEPA Letter: Area 1, Phase I Replacement Planting

- Silos Project
  - Final Remedial Design Work Plan for Operable Unit 4 Silos 1 and 2 Project
  - OEPA Letter: Approval – Silos 1 and 2 Remedial Design Work Plan
  - USEPA Letter: Accelerated Waste Retrieval Project Construction Activities

- Aquifer Restoration Project
  - June 2000 Re-Injection Operating Report

Note: This does not represent the complete list of new documents added to the PEIC for the month of September Contact the PEIC, 513-648-7480 for a complete list of new documents.

Fernald Report
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